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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,858	03/02/2005	Hiroyoshi Hidaka	8279.829USWO	5428

7590 04/27/2009

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EXAMINER	
GEMBEH, SHIRLEY V	
ART UNIT	PAPER NUMBER
1618	
MAIL DATE	DELIVERY MODE
04/27/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,858	HIDAKA ET AL.	
	Examiner	Art Unit	
	SHIRLEY V. GEMBEH	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15,16 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15,16 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/8/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The response filed on **1/21/09** has been entered.

2. Applicant's arguments filed 1/21/09 have been fully considered but they are not deemed to be persuasive.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 15-16 and 27 are pending in this office action.

5. The information disclosure statement (IDS) submitted on 12/08/08 is acknowledged and has been reviewed.

6. The rejection of claims 15-16 and 27 under 35 U.S.C. 112, first paragraph, for lack of proper incorporation of reference is withdrawn because synthesis of the compounds is taught in US patent 5,972,976, which is the corresponding WO 95/27699 as argued by Applicant.

7. Claims 15-16 and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al., (US 5,972,976) in view of Goodman and Gilman (1996), and Ragaz et al., (1997).

Applicant argues that one skilled in the art would expect similar synergism of the instantly claimed compounds when combined with carboplatin with essentially the same reactive structure. Applicant also argues that the claimed compounds when metabolized in a living body convert the pyridine moiety to a pyridine N-oxide group through oxidation. Therefore the compounds of instant claim 27 would show anti-tumor activity.

In response, the claims are drawn to a method of treating a patient suffering from at least one malignant tumor ..... comprising the administration of E) -4- [2- [2- [N-acetyl-N- [(p- met-hoxyphenyl) sulfonyl] amino] phenyl] ethenyl] pyridine 1 – oxide etc.

Hidaka et al teach a pharmaceutical composition for treating malignant tumor (see col. 1 lines 13+) with a compound of formula I wherein the compound is E) -4- [2- [2- [N-acetyl-N- [(p- methoxyphenyl)sulfonyl] amino] phenyl] ethenyl] pyridine 1 – oxide.

Although Hidaka fails to teach combinations with other known anticancer agents such as cisplatin, Goodman and Gilman teach that the antitumor agents cisplatin and carboplatin may be combined with other anticancer drugs for the treatment of cancers, such as breast, ovary and lung (see pages 1229 and 1230) wherein Goodman and Gilman specifically teach “drugs are generally more effective in combination and may be synergistic...” Therefore one of ordinary skill in the art would have been motivated to combine a known anticancer drug employed in the treatment of breast cancer with the newly found drug that is capable of treating the same type of disease via a different mechanism because Goodman and Gilman teach the combination of anticancer drugs,

which such may result in a synergistic effect. In re Kerkhoven, 205 USPQ 1069 (CCPA 1980) wherein the court held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order form a third composition that is to be used for the very same purpose since the idea of combining them flows logically from their having been individually taught in the prior art.

Applicant's argument that a synergistic effect is seen when the claimed compounds are combined with cisplatin and carboplatin by the showing of Table I. According to the data submitted on 1/10/08, Table 1 shows single administration of compound 2 at T/C (%) equals 130 when 50 mg was administered; cisplatin alone resulted in 170 when 5 mg was administered. The combination of the above dosages simultaneously gave a T/C value of 240, which is less than additive. Per calculation it is merely an additive effect. Thus the 1/10/08 calculation does not show synergism but rather an additive effect. In *arguendo,* finding synergism in one compound does not necessitate that every compound cited by the Applicant will respond in the same manner as the shown data.

As to the argument that the claimed compounds when metabolized in a living body convert the pyridine moiety to a pyridine N-oxide group through oxidation, and therefore the compounds of instant claim 27 would show anti tumor activity, this is not commensurate in scope with the claimed invention because the claims are not drawn to how the compounds are metabolized *in vivo*.

Applicant arguments from Cancer Principle and Practice that carboplatin is similar to cisplatin is noted. However, this argument is irrelevant because the rejection is not about the similarity of the compounds but about the synergistic effect. Applicant

has only given data for only compound 2 and asserts that the same occurs for the others. In contrast these compounds all have different substituents and the activity of a compound varies with the different substituents at different positions. In addition, the therapeutically effective amount of one compound with at least one cisplatinum/ carboplatinum encompasses a wide range of therapeutically effective amounts. In summary and based on the calculation above, no synergism exists; the effect is merely additive. Based on the reasons given above the rejection is maintained.

8. No claim is allowed.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHIRLEY V. GEMBEH whose telephone number is (571)272-8504. The examiner can normally be reached on 8:30 -5:00, Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL HARTLEY can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. V. G./
Examiner, Art Unit 1618
4/13/09

/Robert C. Hayes/
Primary Examiner, Art Unit 1649